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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|---------------------|------------------|
| 10/806,789 | 03/22/2004 | Hai-Feng Wang | MS1-606USC1 | 2367 |
| 22801 | 7590 | 09/20/2006 | EXAMINER | |
| LEE & HAYES PLLC 421 W RIVERSIDE AVENUE SUITE 500 SPOKANE, WA 99201 | | | SANDERS, AARON J | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 2169 | |

DATE MAILED: 09/20/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/806,789

Applicant(s)

WANG ET AL.

Examiner

Aaron J. Sanders

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 37-41 and 72-82 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 37-41 and 72-82 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application
- ☐ Other: _____

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DETAILED ACTION

Priority

This application appears to be a division of Application No. 09/645806, filed 24 August 2000. A later application for a distinct or independent invention, carved out of a pending application and disclosing and claiming only subject matter disclosed in an earlier or parent application is known as a divisional application or "division." The divisional application should set forth the portion of the earlier disclosure that is germane to the invention as claimed in the divisional application. The priority date is granted.

Specification

The abstract of the disclosure is objected to because it contains more than 150 words. Appropriate correction is required. See MPEP § 608.01(b).

The use of the trademarks Yahoo!, MSN.com, and Askjeeves.com have been noted in this application. They should be capitalized wherever they appear and be accompanied by generic terminology. Although the use of trademarks is permissible in patent applications, the proprietary nature of the marks should be respected and every effort made to prevent their use in any manner that might adversely affect their validity as trademarks.

Claim Objections

Claim 37 is objected to because of the following informality: the phrase "to from a query space" is grammatically incorrect. For purposes of examination, the claim will be interpreted to read, "from a query space". Appropriate correction is required.

Claim 39 is objected to because of the following informality: the phrase "containing templates identifications" is grammatically incorrect. Appropriate correction is required.

Claim 72 is objected to because of the following informality: the phrase "one keyword based at least one non-parsable character string" is grammatically incorrect. For purposes of examination, the claim will be interpreted to read, "one keyword based at least on one non-parsable character string". Appropriate correction is required.

Claim 73 is objected to for the following informality: the phrase "at least once keyword" is grammatically incorrect. For purposes of examination, the claim will be interpreted to read, "at least one keyword". Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

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The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claim 72-82 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claims contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventors, at the time the application was filed, had possession of the claimed invention.

Claim 72 recites the limitation, "character strings" in the phrase "segmenting the search query into individual character strings". There is insufficient antecedent basis in the specification for this limitation in the claim.

Claim 78 recites the limitation, "a keyword searcher to identify one or more keywords in the search query and to output the keywords". In the specification, the "keyword searcher" conducts a search based on keywords returned from the "parser". There is no indication that it identifies keywords since that is the job of the parser.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 72-82 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

As per claim 72, "segmenting the search query" is not a "physical transformation", and "generating at least one keyword" is not a "useful, concrete, and tangible result".

As per claim 78, a collection of modules capable of data transformation (e.g. "a segmentation module") and output (e.g. "a keyword searcher") does not make the claim produce a "physical transformation" or "useful, concrete, and tangible result".

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this

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subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 37-41 and 72-82 are rejected under 35 U.S.C. 102(e) as being anticipated by Warthen, U.S. Pat. 6,584,464.

As per claims 37-41 and 72-82, Warthen teaches:

1-36. (Cancelled)

37. (Previously Presented) A method comprising:
receiving a query (See e.g. Brief Summary par. 9, “The query input processor is used for accepting an initial user query”);

mapping the query to from a query space to a question space to identify associated frequently asked questions (See e.g. Brief Summary par. 10, “a semantic network to obtain a weighted list of well-formed questions representative of possible semantic meanings for the initial user query”);

mapping the questions from the question space to a template space to identify associated templates (See e.g. Detailed Description par. 7, “QPE 30 is coupled to dictionary 34 and semantic net snapshot 40 and uses the information obtained from those sources to generate template questions in response to a user-entered question” where QPE means “Query Processing Engine” and the “semantic net” is the “question space”);

mapping the templates from the template space to an answer space to identify associated answers (See e.g. Detailed Description par. 7, “Template questions are questions that are mapped to answers in question-answer mapping table 42”); and

returning the answers in response to the query (See e.g. Detailed Description par. 10, “information server 50 uses AE to generate answers to the questions and either presents the user with one or more URL's of sites that answer the initial question”).

38. (Previously Presented) A method as recited in claim 37, wherein the mapping from the query space to the question space comprises:

parsing the query to identify at least one associated concept (See e.g. Detailed Description par. 17, “Another approach to tokenizing is to scan the initial user query and group words into conceptual strings”); and

correlating the concept to one or more frequently asked questions (See e.g. Detailed Description par. 17, “Tokenizer 150 converts the initial user query into a list of words and provides the list to parser 155” where, see Abstract, “the question processor includes a tokenizer for tokenizing the initial user query into a list of words” and, see Abstract, “The question processor processes the initial user query to identify a set of possible well-formed questions selected from the question database, where a well-formed question is a question in the database that is coupled to at least one answer reference” which correlates the concepts to frequently asked questions).

39. (Previously Presented) A method as recited in claim 37, wherein the mapping from the question space to the template space comprises cross-indexing from a first table containing

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question identifications to a second table containing templates identifications (See e.g. Detailed Description par. 7, “a knowledge base 36, which comprises storage for a semantic net snapshot 40 and a question-answer mapping table 42. QPE 30 is coupled to dictionary 34 and semantic net snapshot 40 and uses the information obtained from those sources to generate template questions in response to a user-entered question”).

40. (Previously Presented) A method as recited in claim 39, wherein the mapping from the template space to the answer space comprises cross-indexing from the second table to a third table containing answer identifications (See e.g. Detailed Description par. 7, “Template questions are questions that are mapped to answers in question-answer mapping table 42”).

41. (Previously Presented) A method as recited in claim 37, further comprising:
presenting the answers to a user for confirmation as to which of the answers represent the user's intentions in the query (See e.g. Fig. 3);
analyzing the query and the answers confirmed by the user (See e.g. Detailed Description par. 15, “FIG. 3 shows an example display 90 resulting from such a questions display page. From that display 90, the user can select the desired template question and parameters, or can select a button 92 for more answers, resulting in a display such as that shown in FIG. 4”); and
modifying the answers that are returned in response to the query based on information gleaned from the analyzing (See e.g. Figs. 3 and 4).

42-71. (Cancelled)

72. (New) A method of parsing a search query, comprising:
segmenting the search query into individual character strings (See e.g. Claim 2, “the user initial query is a text string comprising a sequence of one or more tokens, wherein a token is one or more words that have meaning together”);
producing a parse tree from at least one parsable character string of the search query (See e.g. Detailed Description par. 19, “a user query might use one of the synonyms “drizzle”, “storming” or “misting” for raining. By reducing the synonyms to canonical form, the information server does not need to deal with so many questions because, in the above example, four questions collapse into one. Normalizer 160 uses a semantic map, a small portion of which is shown in FIG. 6, to perform the canonical reduction” where the semantic map for “automobile” qualifies as a “tree”); and
generating at least one keyword based at least one non-parsable character string of the search query (See e.g. Detailed Description par. 19, “a user query might use one of the synonyms “drizzle”, “storming” or “misting” for raining. By reducing the synonyms to canonical form, the information server does not need to deal with so many questions because, in the above example, four questions collapse into one” where the keyword “raining” is generated from the non-parsable character strings “drizzle”, “storming”, and “misting”).

73. (New) The method of claim 72, further comprising:
conducting keyword searching using the at least once keyword (While keyword searching is well known in the art, see e.g. Brief Summary par. 3, “initiate a search with a particular set of

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keywords”, the reference also teaches a form of keyword searching using mapping, see e.g. Detailed Description par. 22, “FIG. 7 illustrates how a semantic net 200 might be organized to be used to map keywords to questions. Once keywords are mapped to questions, the questions are mapped to answers using question-answer mappings 202”).

74. (New) The method of claim 72, wherein the parse tree represents a collection of concepts related to the search query (See e.g. Fig. 6, where the “automobile” semantic map qualifies as a “tree” and is a collection of concepts related to a search query).

75. (New) The method of claim 74, further comprising matching the parsed concepts to a list of frequently asked questions (See e.g. Detailed Description par. 21, “Since the list is of instantiated questions that are based on template questions, they will be found in question-answer mapping table 42” where “Template questions are questions that are mapped to answers in question-answer mapping table 42” and as such qualify as “frequently asked questions”).

76. (New) The method of claim 75, further comprising:
identifying at least one answer associated with the list of frequently asked questions that match the parsed concepts and keywords (See e.g. Brief Summary par. 9, “The question processor processes the initial user query to identify a set of possible well-formed questions selected from the question database, where a well-formed question is a question in the database that is coupled to at least one answer reference”); and

presenting the at least one answer to a user in a user interface that permits a user to select a desired answer from the one or more answers (See e.g. Detailed Description par. 10, “Once the user selects a template question, information server 50 uses AE to generate answers to the questions and either presents the user with one or more URL’s of sites that answer the initial question (step 9A) and control passes to an answer display page (step 9B) that presents the user with the answer directly (step 10)”).

77. (New) The method of claim 76, further comprising:
logging the search query and at least one answer selected by the user in a log database (See e.g. Detailed Description par. 6, “As shown in FIG. 1(a), actions taken by users in response to prompts on the basic set of pages are logged in log files 20” where there is a “log user question” and a “log user pick”); and

analyzing the log database to derive at least one weighting factor indicating how relevant the frequently asked questions are to the parsed concepts and keywords (See e.g. Detailed Description par. 12, “The query is logged to log files 20 for use in further refining information server 50” and Claim 9, “removing template questions from the set that have a confidence weight below a predetermined threshold”).

78. (New) A parser for a search engine, comprising:
a segmentation module that segments a search query into one or more individual character strings (See e.g. Claim 2, “the user initial query is a text string comprising a sequence of one or more tokens, wherein a token is one or more words that have meaning together”);

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a natural language parser module that produces a parse tree from one or more parsable character strings of the search query (See e.g. Detailed Description par. 19, “a user query might use one of the synonyms “drizzle”, “storming” or “misting” for raining. By reducing the synonyms to canonical form, the information server does not need to deal with so many questions because, in the above example, four questions collapse into one. Normalizer 160 uses a semantic map, a small portion of which is shown in FIG. 6, to perform the canonical reduction” where the semantic map for “automobile” qualifies as a “tree”); and

a keyword searcher to identify one or more keywords in the search query and to output the keywords (See e.g. Detailed Description par. 12, “The initial user query can be a natural language question (e.g., “Where can I find information on the sport bicycling?”) and may well include grammatical errors, or a set of keywords, such as “info sport bicycling”... When the user presses button 84, the initial user query is sent to information server 50 and client interface 60 passes the query to QPE 30” where keywords have clearly been identified and “output” to QPE).

79. (New) The parser of claim 78, wherein the parse tree represents a collection of concepts related to the search query (See e.g. Fig. 6, where the “automobile” semantic map qualifies as a “tree” and is a collection of concepts related to a search query).

80. (New) The parser of claim 78, further comprising a search module that matches the parsed concepts to a list of frequently asked questions (See e.g. Detailed Description par. 21, “Since the list is of instantiated questions that are based on template questions, they will be found in question-answer mapping table 42” where “Template questions are questions that are mapped to answers in question-answer mapping table 42” and as such qualify as “frequently asked questions”).

81. (New) The parser of claim 80, wherein the search module:
identifies at least one answer associated with the list of frequently asked questions that match the parsed concepts and keywords (See e.g. Brief Summary par. 9, “The question processor processes the initial user query to identify a set of possible well-formed questions selected from the question database, where a well-formed question is a question in the database that is coupled to at least one answer reference”); and

presents the at least one answer to a user in a user interface that permits a user to select a desired answer from the one or more answers (See e.g. Detailed Description par. 10, “Once the user selects a template question, information server 50 uses AE to generate answers to the questions and either presents the user with one or more URL’s of sites that answer the initial question (step 9A) and control passes to an answer display page (step 9B) that presents the user with the answer directly (step 10)”).

82. (New) The parser of claim 81, wherein the search module:
logs the search query and at least one answer selected by the user in a log database (See e.g. Detailed Description par. 6, “As shown in FIG. 1(a), actions taken by users in response to prompts on the basic set of pages are logged in log files 20” where there is a “log user question” and a “log user pick”); and

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analyzes the log database to derive at least one weighting factor indicating how relevant the frequently asked questions are to the parsed concepts and keywords(See e.g. Detailed Description par. 12, "The query is logged to log files 20 for use in further refining information server 50" and Claim 9, "removing template questions from the set that have a confidence weight below a predetermined threshold").

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Aaron J. Sanders whose telephone number is 571-270-1016. The examiner can normally be reached on M-Th 7:30a-5:00p.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Bruce can be reached on 571-272-2487. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



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